

U.S. Application No. 09/987,202

*12/Reply Brief
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE HONORABLE BOARD OF PATENT APPEALS AND
INTERFERENCES**

OFFICIAL

In re PATENT APPLICATION of:

Confirmation No.: 6169

SCHUEHMACHER et al.

Group Art Unit: 3611

Appln. No.: 09/987,202

Examiner: Luby, Matthew D.

Filed: November 13, 2001

Title: A SNOWMOBILE WITH A TURBOCHARGED FOUR-STROKE ENGINE

January 28, 2004

* * * * *

REPLY BRIEF

Hon. Commissioner of Patents
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I. INTRODUCTION

This Reply Brief is being filed within two months of the Examiner's Answer dated November 28, 2003. This Brief responds to the new points raised by the Examiner's Answer.

A. The Status of the Claims

Claims 1-30 are pending. Claims 1-3, 5-11, and 15-29 stand rejected, and are on appeal. The Examiner's Answer indicates that claims 4, 12-14 and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. Accordingly, it is respectfully submitted that claims 4, 12-14 and 30 are not appeal.

II. REPLY

A. Claims 1, 2, 5, 6, 15-17, 19-21 and 23-29 Are Not Obvious Over Lakosky in View of Appellants' Admitted Prior Art (AAPA)

In response to Appellants arguments that certain claim limitations are not inherent from the teachings of Lakosky and AAPA, the Examiner has provided certain pages from The Road & Track Illustrated Automotive Dictionary, John Dinkel, Bentley Publishers, 2000, in an attempt to support the allegation that these claim limitations are necessarily present in the disclosures of Lakosky and AAPA. As discussed in detail below, it is respectfully submitted that the evidence supplied by the Examiner fails to establish that these claim limitations are inherent in the disclosures of Lakosky and AAPA.

In response to Appellants arguments that there is no motivation or suggestion to combine the teachings of Lakosky and AAPA, the Examiner's answer on page 6, lines 16-20 states: "This is clearly, unambiguously and unequivocally not the case. The suggestion or motivation to modify the snowmobile of Lakosky comes directly from Applicants' Admitted

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Prior Art (in paragraphs [0005] and [0006] of Applicants' specification), i.e., that it is known to use a turbocharger on a four stroke engine, albeit outside the art of snowmobiles." The Examiner's Answer, on page 7, lines 18-21, also states "In this case, the motivation comes from Applicants' own admissions in the specification, namely, that turbocharger provides 'increased power output and fuel efficiency' and that a CVT 'can help reduce or prevent turbo lag' from a turbocharged engine."

Despite the Examiner's strenuous protestations, it is respectfully submitted that there is no suggestion or motivation, either in Lakosky or AAPA, or in the knowledge generally available to one of ordinary skill in the art, to combine the teachings of Lakosky and AAPA.

The very clear mandate of 35 U.S.C. §103(a), and the MPEP, is that the claimed subject matter and the prior art be considered as a whole. MPEP §2141.02 states: "A prior art reference must be considered in its entirety, i.e. as a whole, including portions that would lead away from the claimed invention.." (Emphasis in original.) MPEP §2145X.D.3 states: "The totality of the prior art must be considered, and proceeding contrary to accepted wisdom in the art is evidence of nonobviousness."

It is respectfully submitted that the Examiner's determination that paragraphs [0005] and [0006] of Applicants' specification provides the motivation to combine Lakosky and AAPA is a failure to follow the mandate of 35 U.S.C. §103 and the MPEP to consider the claimed subject matter and the prior art as a whole. For example, the Examiner has ignored paragraph [0004] of Appellants' specification which discloses that four-stroke engines have generally not been used with snowmobiles due to the relatively lower power-to-weight/size ratios of the these types of engines. Snowmobile performance is extremely sensitive to increases in weight and the relative compact chassis and body of a snowmobile limits the space available for the engine. The relative complexity of four-stroke engines, in comparison

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to two-stroke engines, also makes their integration into a vehicle such as a snowmobile difficult.

The Examiner has even ignored those portions of paragraph [0005] that would lead one of ordinary skill in the art away from the claimed invention. The very paragraph the Examiner cites as providing motivation or suggestion for the combination clearly discloses that a turbocharged V-twin engine has not been previously considered feasible for utilization with a snowmobile.

The Examiner has also ignored Appellants disclosure in paragraph [0056] that due to the previously disadvantageous characteristics of four-stroke engines, with respect to implementation thereof with snowmobiles, the present invention has been unpracticed in the art. Additionally, the Examiner has ignored Appellants disclosure in the paragraph [0057] that with respect to a turbocharger, previous use of a turbocharger has been considered unfeasible in a snowmobile due to turbo lag during rapid throttle advancement. Rapid throttle advancement is a common occurrence during normal and extreme operating conditions of snowmobiles.

Even assuming it would be proper to ignore Appellants' disclosure that the use of a turbocharger has been considered unfeasible in a snowmobile and that the implementation thereof with respect to snowmobiles has been unpracticed in the art, and even assuming that Appellants' disclosure that turbochargers are known to provide increased power output and fuel efficiency, the claimed invention would still be nonobvious over Lakosky in view of AAPA. As argued on page 19, lines 10-19, of the August 27, 2003 Appeal Brief, Appellants have clearly proceeded contrary to the accepted wisdom in the snowmobile art. Although Appellants in no way concede that the Examiner's combination presents a *prima facie* case of obviousness, such secondary considerations must be considered by the Examiner. See MPEP

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§2141. The Examiner did not consider these considerations during examination of the instant application. The Examiner's Answer failed to provide any response to Appellants' arguments regarding these considerations.

It is respectfully submitted that the combination of Lakosky and AAPA fails to present a *prima facie* case of obviousness against claims 1 and 19.

The Examiner's Answer on page 8, lines 1-12, alleges that all of the limitations of claims 2 and 15-17 are inherent properties of an engine and a turbocharger. The Examiner's Answer also alleges that the basis in fact and/or technical reasoning in support for this allegation were provided in the paragraph bridging pages 2-3 of the March 26, 2003 Final Rejection. It is respectfully submitted that the paragraph bridging pages 2-3 of the Final Rejection are nothing more than a conclusory statement that the claimed limitations are inherent properties of an engine and a turbocharger. In support for the allegation, the Examiner's Answer includes certain portions of The Road & Track Illustrated Automotive Dictionary. It is respectfully submitted that the evidence cited by the Examiner fails to provide the missing basis in fact and/or technical reasoning and fails establish that the limitations of claims 2 and 15-17 are inherent in the disclosures of Lakosky and AAPA.

It is further respectfully submitted that Appellants are not denying that engines include cylinders having combustion chambers, or that turbochargers utilize the exhaust flow of the engine to pressurize air. However, it is respectfully submitted that the limitations of claims 2 and 15-17 are not inherent in the disclosures of Lakosky and AAPA.

Claim 2 recites that the snowmobile includes an air intake system. The air intake includes an air passage communicated with the atmosphere. The air passage is substantially a hollow enclosed structure. The turbocharger is connected to the air passage such that air from the air passage may enter the turbocharger. The turbocharger communicates with the

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exhaust outlet and is constructed and arranged such that the flow of exhaust gases from the exhaust outlet through the turbocharger affects a pressurization of air therein.

There is nothing in the disclosures of Lakosky and AAPA, and nothing in the definitions of a turbocharger or throttle body, or any other definition, provided in The Road & Track Illustrated Automotive Dictionary that discloses or suggest that an air intake system communicated with the atmosphere and being a substantially hollow enclosed structure is necessarily present in the disclosures of Lakosky and AAPA.

Each of claims 15-17 depends on claim 2. (Appellants agree that claim 16 should properly depend from claim 15.) As the limitations of claim 2 are not inherent in the disclosures of Lakosky and AAPA, it is respectfully submitted that the limitations of claims 15-17 in combination with claim 2 are not inherent in the disclosures of Lakosky and AAPA.

The Examiner's Answer on page 8, lines 13-20, alleges that the rationale relied on by the court in In re Japikse, 86 USPQ 70, supports the determination that claims 5 and 6 would have been obvious over Lakosky in view of AAPA. In particular, the Examiner alleges: "It is submitted that there is no critically, whatsoever, to Applicants' claims that the air passage is positioned forward or aft of the engine to prevent significant heating of air within the air passage. This is evident from the fact that Applicants have themselves claimed that both arrangements are claimed to do the exact same thing, e.g., to prevent significant heating of the air within the air passage regardless of whether the passage of positioned forward *or* after the engine." (Italic emphasis in original.)

Firstly, as discussed in Appellants' Appeal Brief, the facts of In re Japikse are not sufficiently similar to those of the instant application to permit the Examiner to rely on the rationale used by the court. The Examiner has provided no response to Appellants' arguments with respect to this case.

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Secondly, as discussed above with respect to claim 2, from which claims 5 and 6 depend, the air passage of claim 2 is neither disclosed nor suggested, either explicitly, implicitly, or inherently by the disclosures of Lakosky and AAPA. Accordingly, it is respectfully submitted that it would have been impossible for one of ordinary skill in the art to rearrange a feature which is neither disclosed nor suggested by the prior art.

Thirdly, it is respectfully submitted that the Examiner's citation of Appellants' claims as evidence that the arrangements are obvious is the epitome of impermissible hindsight. It appears to be Examiner's position that because Appellants have discovered and claimed two arrangements which prevent significant heating of air within the air passage, that such discovery and claims supports the determination that the claimed arrangements are obvious. It is respectfully submitted that relying on Appellants own claimed invention is clearly improper and fails to present a *prima facie* case of obviousness against the claims.

Fourthly, with respect to the allegation that there is no critically whatsoever to Appellants claimed arrangements and that "it would be purely a matter of design choice for aesthetic or design configuration requirement purpose to put the air passage forward or after the engine," it is respectfully submitted that the Examiner's conclusion are misplaced. One of ordinary skill in the art would not have been concerned with the positioning of the air passage with respect to the engine for "aesthetic" purposes. A snowmobile engine is covered by a hood. This is not a feature that one of ordinary skill of snowmobile design would select for "aesthetic" purposes.

Fifthly, it is also respectfully submitted that Lakosky must do more than "appear to show air passages positioned at least forward of the engine" in order to present a *prima facie* case of obviousness.

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Throughout the prosecution of the instant application, the Examiner has relied on boilerplate case law rationale in the determination of obviousness of the claimed invention. For example, page 9, lines 3-12, of the Examiner's Answer again relies on the rationale of In re Japikse to reject claims 20 and 21. The Examiner alleges that the arrangements recited in claims 20 and 21 are an obvious rearrangement of parts and cites as evidence Applicants own claims. It is again respectfully submitted that such reliance on clearly inapplicable case law rationale and Applicants' own disclosures and claims in determining obviousness is an impermissible use of hindsight and fails to present a *prima facie* case of obviousness.

The Examiner's Answer on page 9, lines 13-20 alleges that the features of claims 23-25 are inherent in Lakosky and/or AAPA. As presented by the Office Action : "The paragraph bridging pages 2-3 of the Final Rejection addressed the limitation that the turbocharger pressurizes the air as an inherent characteristic of a turbocharger." It is respectfully noted, however, that claim 23 recites that the turbocharger pressurizes the air prior to the engagement of the continuously-variable-transmission. The Examiner is simply ignoring this feature of the claim. It is not Appellants' position that a turbocharger does not pressurize air. It is Appellants position that the feature recited in claim 23, that the turbocharger pressurizes the air prior to engagement of the CVT, is not necessarily present in the disclosures of Lakosky and AAPA. The Examiner has provided no basis in fact and/or technical reasoning for the conclusion that the features recited in claim 23 are necessarily present in the disclosures of Lakosky and AAPA. The Road & Track Illustrated Automotive Dictionary definition of a turbocharger, and every other definition provided, fails to cure this deficiency of the prior art.

With respect to claim 24 and 25, regardless of whether V-twin engines and in-line engines are "notoriously well-known in the art," their use in a snowmobile and with a

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turbocharger are not known in the art. Accordingly, the features recited in claims 24 and 25, in combination with the claims from which they depend, are non-obvious from Lakosky in view of AAPA.

Page 10 of the Examiner's Answer is once again an improper reliance solely on the rationale used by the court in In re Japikse and an improper reliance on Appellants' own disclosure and claims in the determination of obviousness of claims 26-29. It is respectfully submitted that these rejections are improper for all the reasons discussed above.

B. Claims 3, 7-10, 18 and 22 Are Not Obvious Over Lakosky in View of AAPA and Cooper et al.

With respect to claim 3, the Examiner's Answer, on pages 11-12, alleges that one of ordinary skill in the art would have been motivated by the teachings of Cooper et al. when faced with the problem of configuring a four-stroke turbocharged engine in a snowmobile. It is respectfully submitted that Cooper et al. would provide no guidance to one of ordinary skill in the art of snowmobiles in configuring a four-stroke turbocharged engine in the relatively small space of a snowmobile frame. With respect to the allegation on page 12, lines 5-7, that Cooper et al. relate to cooling of an engine and that this "is precisely the particular problem addressed by claim 3," it is respectfully submitted that such an allegation is clear indication that the Examiner is not considering the claimed subject matter and the prior art as a whole. As discussed throughout the specification, the invention is a snowmobile. Applicants were faced with the particular problem of how to provide a relatively large four-stroke turbocharged engine into the small space provided by a snowmobile frame. As discussed through out the specification, previous snowmobiles generally used two-stroke engines to provide a larger power-to-weight ratio. Four-stroke engines are generally large and heavier than two-stroke engines. Four-stroke engines are thus more difficult to configure in the small

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space provided by a snowmobile frame and tend to reduce the power-to-weight ratio of the snowmobile. Accordingly, one of ordinary skill in the art would not look to Cooper et al.'s disclosure of cooling diesel locomotive engines when faced with these problems.

Page 12 of the Examiner's Answer alleges that the limitations of claims 7 and 11 are inherent in the disclosures of Lakosky and AAPA. Claim 7 recites that the intercooler includes intake and outlet portions connected by a series of spaced hollow conduits. Nothing in the definition of an intercooler in The Road & Track Illustrated Automotive Dictionary discloses or suggests such features. There is simply no mention of a series of spaced hollow conduits.

Claim 11 recites that the air passage communicates with the turbocharger via a first duct member and the turbocharger communicates with the heat exchanger via a second duct member. As discussed above with respect to claim 2, neither Lakosky or AAPA discloses or suggest the air passage. Cooper et al. fails to cure this deficiency. There is nothing in the definitions of The Road & Track Illustrated Automotive Dictionary that discloses or suggests the air passage, the first duct or the second duct. These features are not necessarily present in the disclosures of Lakosky, AAPA and Cooper et al.

With respect to claims 8-10, the Examiner again relies on In re Japikse. The Examiner also again cites Appellants' own disclosure and claims as evidence of obviousness of the claimed invention. It is respectfully submitted that the rejections of claims 8-10 are improper for all of the reasons discussed above.

Claim 18 recites that the turbocharger pressurizes the air at a sufficiently useable level for engine speeds below 3000 revolutions per minute. Claim 22 recites that the continuously-variable-transmission is configured such that initial movement of the snowmobile is effected when the engine is operating at 3000 revolutions per minute.

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Neither Lakosky, AAPA nor Cooper et al. disclose or suggest anything about the engine speed at which the turbocharger pressurizes the air at a sufficiently useable level or at which the continuously-variable-transmission effects initial movement of the snowmobile.

The Examiner relies on the rationale used by the court in In re Aller, 105 USPQ 233, to reject claims 18 and 22. Appellants have argued that the facts of In re Aller are not sufficiently similar to the instant application for the Examiner to rely on the rationale used by the court. Appellants also have argued that the instant application clearly demonstrates that the claimed engine speeds prevent turbo lag in snowmobiles upon rapid throttle advancement.

The Examiner's Answer, on page 13, lines 5-8, concludes: "It is well accepted that this decision provides teaching that discovering the optimum or workable ranges involves only routine skill in the art because it is submitted that this is considered mere optimization." It is respectfully submitted the Examiner's conclusion fails to address Appellants' arguments. MPEP § 2144.04 clearly states that certain conditions must be present before the Examiner may rely on the rationale used by the court. Case law rationale is not a blanket license for the Examiner to cure deficiencies in the prior art with general statements that the missing limitations would have been obvious. The Examiner has not met the criteria for relying on the rationale used by the court and the rejection fails to present a *prima facie* case of obviousness against claims 18 and 22.

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Appellants now appeal to this Honorable Board to promptly reverse these rejections and issue a decision in favor of Appellants. All of the claims are in condition for allowance.

Respectfully submitted,

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